

Claims

What is claimed is:

1. A device for manufacturing wrapped tubes by helically winding up a thermoplastic, preferably strip-shaped plastic profile (2) onto a winding core (1), a plasticizing aggregate supplying the plastic profile (2) to the winding core (1) via a profile nozzle (4),
characterized in
that the plasticizing aggregate is a kneading means (3) supplying a thermoplastic plastic mixed with reinforcing fibers via the profile nozzle (4).
2. The device according to claim 1, characterized in that the kneading means is a screw kneading aggregate.
3. The device according to claim 1 or 2, characterized in that the thermoplastic plastic consists of polyethylene or polypropylene.
4. The device according to one of claims 1 to 3, characterized in that the reinforcing fibers consist of plastic, glass and/or metal.
5. The device according to claim 3, characterized in that the reinforcing fibers consist of glass fibers, aramide fibers and/or carbon fibers.
6. The device according to one of claims 4 or 5, characterized in that the fiber length of the reinforcing fibers amounts to at least 2 mm, preferably to more than 4 mm up to endless.

7. The device according to one of claims 1 to 6, characterized in that the wrapped tube consists of several superposed winding layers (9a, 9b) formed of the plastic profile (2) and extending under an oblique angle relative to each other.
8. The device according to one of claims 1 to 5, characterized in that the fiber-reinforced mixture homogenized in the kneading means (3) consists of
 - 60 to 94 percent by weight of polyethylene or polypropylene
 - 1 to 10 percent by weight of bonding agent as well as
 - 5 to 40 percent by weight of reinforcing fibers.
9. A method for manufacturing wrapped tubes by winding up a thermoplastic, preferably strip-shaped plastic profile (2) onto a winding core (1) in an overlapping manner, the plastic profile (2) being supplied to the winding core (1) from a plasticizing aggregate and a profile nozzle (4),
characterized in
that a kneading means (3) is employed as a plasticizing aggregate for manufacturing wrapped tubes with an increased internal pressure resistance,
and that a thermoplastic plastic is brought to a predetermined melting temperature and homogeneously mixed with reinforcing fibers in the screw kneader (3),
the fiber-reinforced homogenized thermoplastic plastic mixture being subsequently supplied to the winding core (1) via the profile nozzle (4).

10. The method according to claim 9, characterized in that polyethylene or polypropylene is used as thermoplastic plastic.
11. The method according to claim 7 or 8, characterized in that reinforcing fibers of plastic, glass and/or metal are used.
12. The method according to one of claims 9 to 11, characterized in that the wrapped tube is formed of several winding layers (9a, 9b) wrapped on top of each other.
13. The method according to claim 12, characterized in that the plastic profile (2) is supplied to the winding core (1) under a predetermined oblique angle.
14. The method according to claim 12 or 13, characterized in that the several winding layers (9a, 9b) are wound up continuously and that at the reversal positions at the ends of the winding core (1), the oblique angle changes to a different oblique angle with opposite direction due to the reversal of the winding direction in such a manner that succeeding winding layers (9a, 9b) cross each other.
15. The method according to one of claims 12 to 14, characterized in that the innermost and/or the outermost winding layer is wound of polyethylene without any fiber reinforcement.

16. A wrapped tube manufactured according to the method according to claim 9, characterized in that it consists of a fiber-reinforced homogeneous mixture of
 - 60 to 94 percent by weight of polyethylene or polypropylene
 - 1 to 10 percent by weight of bonding agent as well as
 - 5 to 40 percent by weight of reinforcing fibers arranged in random orientation.